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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,687	10/14/2003	Xianhai Chen	014116-81.00US	7052

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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

ROSSI, JESSICA

ART UNIT PAPER NUMBER

1733

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/685,687	CHEN ET AL.	
	Examiner	Art Unit	
	Jessica L. Rossi	1733	

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/14/05, Amendment.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 9/14/05. Claims 1-8 are pending.
2. The rejection of claims 1-2 under 35 USC 102(b) as being anticipated by Bryan (US 6151153, of record), as set forth in paragraph 5 of the previous action dated 5/23/05, has been withdrawn in light of the present amendment; Bryan applies the sensor material to the electrode via a transfer substrate and therefore teaches away from the presently claimed invention.

Terminal Disclaimer

3. The terminal disclaimer filed on 9/14/05 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US PAT 6,866,887 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holman et al. (US 6831769) in view of Bryan (US 6151153, of record), Zuchowski (US 6483643) and further in view of Haas et al. (US 5153759).

With respect to claim 1, Holman is directed to a method for making an electro-optical sensor by providing a transparent substrate 110 comprising an optically smooth top surface and bottom surface (column 12, lines 39-41 and 47-49), coating the top surface of the glass with a transparent electrode 120 (column 12, lines 41 and 55-59), applying a composition of electro-optic sensor material 130 as a layer over the electrode without using a transfer substrate (note

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Holman teachings coating the sensor material directly onto the electrode – column 12, lines 41-42 and 60-62; column 3, lines 6-36), applying a thin layer of adhesive 180 over the layer of electro-optic sensor material (note reference teachings coating the adhesive directly onto the sensor material – column 13, lines 9-20), and laminating a film (not shown in Figures – Holman refers to this film as a ‘backplane’) to the adhesive layer such that the film is substantially optically smooth against the sensor material (column 13, lines 24-27; column 4, lines 3-31).

The reference is silent as to the transparent substrate being glass and the film being a pellicle film bearing a dielectric mirror layer.

It is known in the art to make an electro-optical sensor by laminating a pellicle as a film 26/230 bearing a dielectric mirror layer 232 onto an electro-optic sensor material, which has already been applied over an electrode that was coated onto a glass substrate, via an adhesive layer that has already been applied over the sensor material located on the electrode, as taught by Bryan (Figures 1-2; column 3, line 54 – column 4, line 66; column 5, lines 13-25; column 7, lines 60-62; column 9, lines 17-30). Bryan teaches the pellicle serving as a protective layer for the electro-optic sensor material (column 4, lines 36-38).

Since Holman is not concerned with a particular film for the backplane, as long as it serves to protect the electro-optic sensor material (column 4, lines 8-13), and one reading the reference as a whole would have readily appreciated that Holman is not concerned with forming a particular electro-optical sensor, it would have been obvious to the skilled artisan to use a pellicle as a film bearing a dielectric mirror layer for the protective film of Holman because such is known in the art, as taught by Bryan, where such a film satisfies Holman’s concern with protecting the sensor material while also imparting certain desirable characteristics to the electro-

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optical sensor that allow for its use as a particular type of electro-optical sensor; especially in light of the fact that it is known in the electro-optical sensor art to apply a mirror lamina M to an electro-optic sensor material F that has been applied to a substrate S without using a transfer substrate, such as by coating, as taught by Zuchowski (Figure 8; column 5, lines 59-60; column 6, lines 30-34; column 8, lines 29-34; column 12, lines 11-14).

Furthermore, since Holman only states that transparent plastic is “typically” used for the transparent substrate and is therefore not concerned with a particular transparent substrate for the electro-optical sensor (column 12, lines 47-49), it would have been obvious to use glass as an alternative to plastic because such is known in the art, as taught by Zuchowski (column 5, lines 59-60), and glass provides for a more durable substrate; especially in light of the fact that it is known to use a glass substrate as an alternative to a plastic substrate in the electro-optical sensor art where both types of substrates 1 can be coated with a transparent electrode 2 before having an electro-optic sensor material 3 and a mirror lamina 4 applied thereon in this order, as taught by Haas (Figure; column 4, line 62 – column 5, line 2; column 5, line 58 – column 6, line 15).

Regarding claim 2, Holman teaches the sensor material being PDLC (column 3, lines 34-36).

Regarding claim 3, Holman teaches the laminating step being performed by vacuum lamination (column 4, lines 24-31).

Regarding claims 4-5, selection of a particular vacuum magnitude would have been within purview of the skilled artisan.

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6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holman et al., Bryan, Zuchowski and also Haas as applied to claim 2 above, and further in view of Sadovnik et al. (US 5764317).

Regarding claim 2, if it is not taken that Holman teaches the PDLC sensor material being applied over the electrode by the same methods used to apply the other sensor materials disclosed in the reference (without using a transfer substrate, i.e. coating it directly onto the electrode – column 12, lines 41-42 and 60-62; column 3, lines 6-36), it would have been obvious to apply the PDLC of Holman in the same manner as the other sensor materials because it is known in the electro-optical sensor art to coat a PDLC sensor material directly onto an electrode layer, which was directly coated onto a glass substrate, as taught by Haas (Figure 7; column 7, lines 38-41; column 8, lines 51-53; column 9, lines 31-33; column 10, lines 45-50).

7. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holman et al., Bryan, Zuchowski and also Haas as applied to claims 1 and 3 above, and further in view of Nakamura et al. (US 6346164, of record).

Regarding claims 6-7, it would have been obvious to the skilled artisan to have the pellicle film progressively engage the adhesive layer during the vacuum laminating step such that the pellicle and adhesive are disposed at an angle relative to each other because it is known to dispose two layers at an angle relative to each other when vacuum laminating the same, as taught by Nakamura (Figure 2; column 2, lines 30-45), wherein such disposition aids in the removal of air from between the layers.

Regarding claim 8, selection of a particular vacuum magnitude would have been within purview of the skilled artisan.

Response to Arguments

8. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

9. The examiner appreciates that Bryan teaches applying the electro-optic sensor material using a transfer substrate but would like to point out that Bryan is only being used in the present office action to show it being known in the electro-optical sensor art to laminate a pellicle as a film bearing a dielectric mirror layer onto an electro-optic sensor material, which is already applied over an electrode that was coated onto a glass substrate, via an adhesive layer that has already been applied over the sensor material.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JESSICA ROSSI
PRIMARY EXAMINER

